



Lake Burton 2002 Management Report

Lake Burton is a 76-acre impoundment located in Pittsylvania County, Virginia. This reservoir is owned by the Virginia Department of Game and Inland Fisheries and is managed primarily for fisheries related activities. The only facilities available at this reservoir are a boat ramp and associated parking. Bank fishing is allowed and there is a narrow strip of land that extends around the entire shoreline that can be utilized by bank anglers. The lake is open to fishing 24 hours a day. Outboard motors are prohibited but electric motors use is permitted.

The reservoir was impounded in 1950 and was stocked with various species of sportfish such as largemouth bass, bluegill, and catfish. Lake Burton is an impoundment of Tomahawk Creek and contains a number of fish species that were not originally stocked. These species either were in Tomahawk Creek prior to impoundment or were stocked by anglers. Carp, suckers, and gizzard shad currently dominate the fishery. Small impoundments such as Lake Burton typically do not benefit from these species because they cause the sport fish populations to become unbalanced. Carp and suckers tend to keep water muddy while gizzard shad contribute to stunted sunfish populations.

Largemouth bass abundance is low due to poor recruitment. The abundance of crappie, bluegill, carp, and suckers may be preventing adequate spawning success or young fish survival for largemouth bass. The largemouth bass are growing well from the abundance of forage. The average size of adult bass in 2001 was 14.6 inches and the largest was approximately 8 pounds. These fish reach 16 inches at age 5. Largemouth bass were most abundant between the boat ramp and the dam where water depths are generally more favorable.

White crappie are the dominant crappie species at Lake Burton. White crappie prefer turbid water for optimum reproduction and will usually outnumber black crappie in turbid lakes or where there is turbid areas to spawn. Crappie in this lake are abundant but are growing very poorly. For good growth, crappie must convert to a primarily fish diet by the time they reach 6-7 inches. Since these fish appear to be too abundant, their growth stops when they reach seven inches. It is very common for crappie to be overabundant and stop growing at this size. When this happens they do not die from lack of food, they just stop growing. There were only 2 crappie collected over 8 inches in the 2001 sample. Only a few black crappie were collected and the largest was 7 inches.

Bluegill were also very abundant. The overabundant bluegill population is likely a result of reduced predation from the lack of largemouth bass and the abundance of other small fish. Adequate predation from largemouth bass is needed to maintain healthy sunfish populations. In addition, gizzard shad and carp can compete directly for the same forage as bluegill. Most bluegill at Lake Burton do not exceed 6 inches.

Channel catfish and flat bullhead are both present at Lake Burton. Neither of these species is abundant despite annual stocking of channel catfish. Channel catfish stockings may be discontinued due to poor survival. However, this lake could be a candidate for a trial stocking of larger channel catfish as recommended by a Virginia channel catfish study.

Turbid water and an abundance of undesirable fish species have resulted in an unbalanced fishery. The only highlight to this fishery is the size of the largemouth bass. However, these fish are not abundant and may be hard to catch due to the large quantity of forage.

This reservoir is located west of Chatham and can be accessed by taking one of two routes. From Rt. 40 turn left onto Rt. 799 then turn right onto 649 at Climax then turn then turn left onto Rt. 750 and then turn right onto Rt. 800 and the lake entrance will be on your left. Coming in on Rt. 57 from Climax turn right onto Rt. 750 and then turn left onto Rt. 800 and the lake entrance will be on your left.

Lake Burton Key Findings - 2001

- The largemouth Bass population at Lake Burton is characterized by low densities of large fish.
- Catch rates for largemouth bass were 51 fish per hour in 2001. These catch rates were up from samples collected in 1997 and 1993 but were still very poor for a small impoundment. New electrofishing gear utilized in 2001 may account for increased catch rates.
- Stock indices for largemouth bass were very good and remained stable across samples collected in 2001, 1997, and 1993. For these three years, PSD values ranged from 72 to 76 and RSD values ranged from 34 to 55.
- Less than 15% of the largemouth bass collected in the 2001 sample were classified as 'young' (0-190 mm). Less than 3% were young in 1997 and 1993.
- Poor largemouth bass recruitment may be a result of high densities of sunfish, carp, suckers, and gizzard shad.
- Growth of largemouth bass was good. These fish averaged 411 mm at age 5.
- White crappie were the dominant species of crappie. There were 149 white crappie collected and only 8 black crappie collected.
- Stock densities indices and growth for crappie were very poor indicating an overabundant population. White crappie only grew to age 4 and lengths for each subsequent age were very similar, averaging approximately 180 mm.
- Bluegill were abundant and dominated by adult fish. Growth was fair and leveled at age 5 (152 mm)
- Ten different species of fish were collected including gizzard shad. Numerous carp and suckers were also observed but not collected.
- The water at Lake Burton stays turbid throughout the year. It is assumed the large population of carp and suckers is primarily responsible for the turbidity. This lake remained turbid despite limited inflows during the past couple of years, even during drought conditions.
- Despite high turbidity, adequate forage, and annual stockings; there were only four channel catfish collected in the 2001 sample. Traditional catfish stockings should be discontinued. However, a larger sized stocked catfish may be appropriate for stocking if available.
- Gizzard shad were the fourth most abundant species during the 2001 sample. Any affects to the fishery from gizzard shad are likely to be negative.
- The large number of undesirable species present and continued turbidity problems warrants a lake renovation. If possible, Lake Burton should be renovated if it is determined that undesirable species will not be reintroduced from the upstream waters.

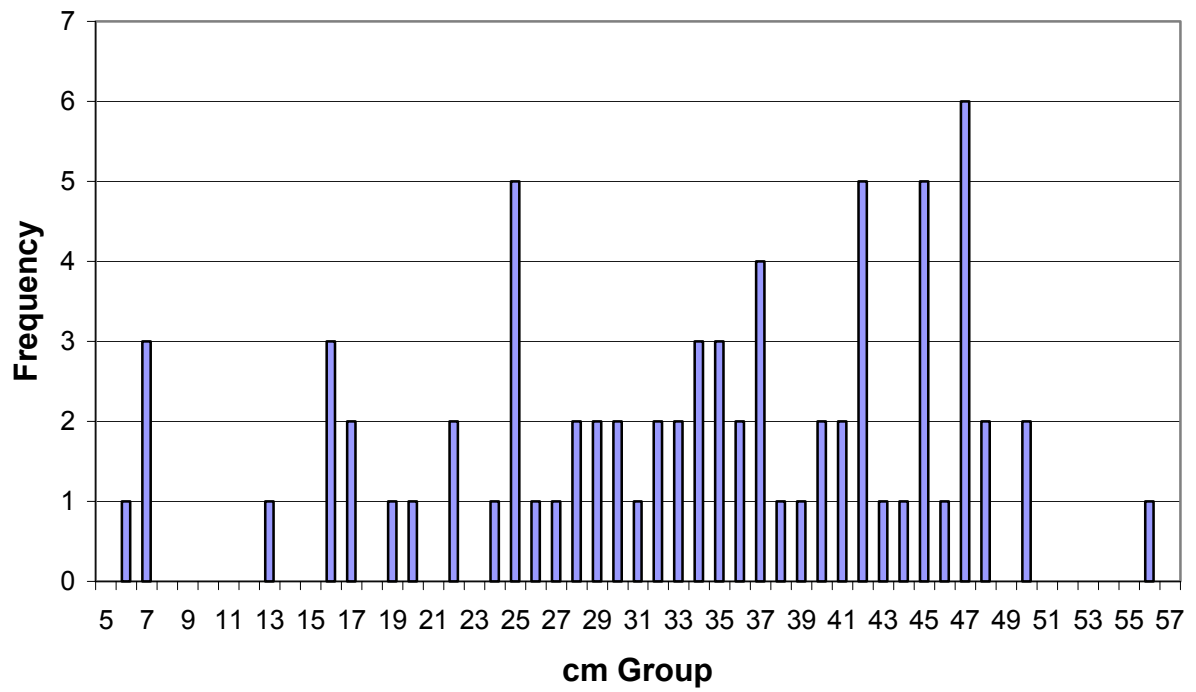


Figure 1. Length frequency distribution for largemouth bass collected with electrofishing gear at Lake Burton on 5/04/2001.

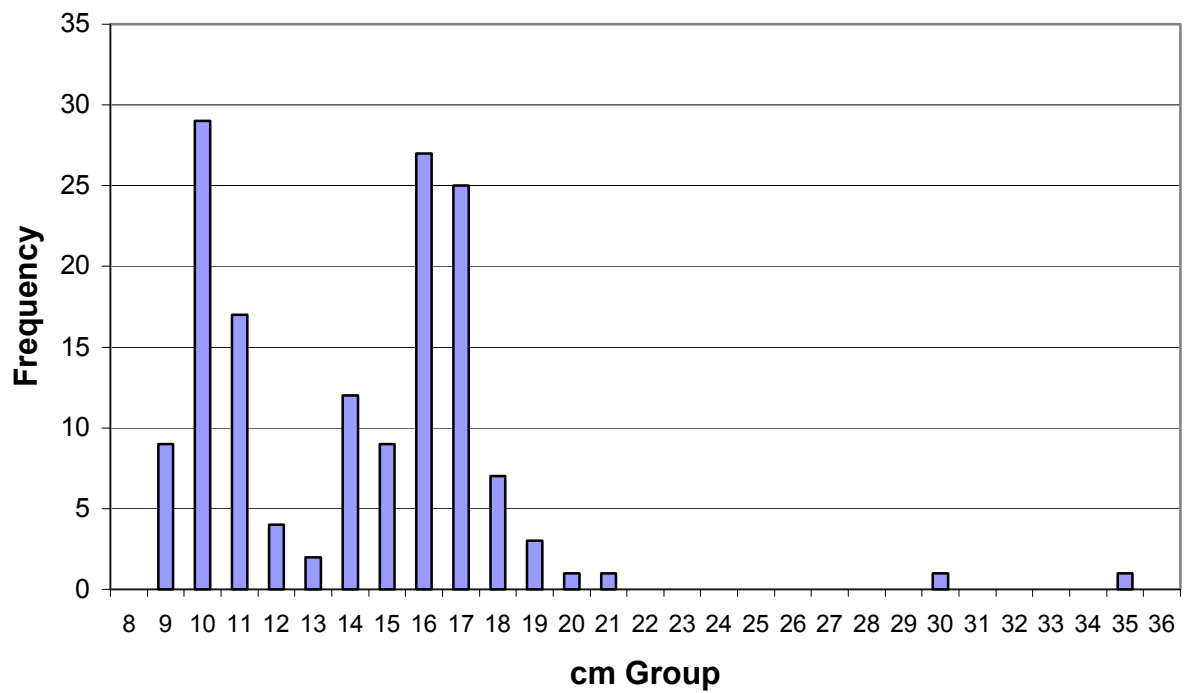


Figure 2. Length frequency distribution for white crappie collected with electrofishing gear at Lake Burton on 5/04/2001.

Table 1. Proportional and relative stock indices and CPUE (hr) data collected from electrofishing samples at Lake Burton, 1993-2001.

Species	Year	N	CPUE	Young	Stock	Quality	Preferred	PSD	RSD
LMB				(0-19)	(20-29)	(30-37)	(>37)		
	2001	75	51	11	15	18	31	76	48
	1997	29	14	0	8	5	16	72	55
	1993	33	18	1	9	12	11	72	34
WHC				(0-13)	(14-20)	(21-25)	(>25)		
	2001	149	154	59	89	4	2	4	2
	1997	14	7	0	12	2	0	14	0
BLG				(0-7)	(8-14)	(15-19)	(>19)		
	2001	124	380	15	101	8	0	7	0

Table 2. Lake Burton age and growth data collected from electrofishing samples on 5/04/2001.

Species	Year	Age 1	Age 2	Age 3	Age 4	Age 5	Age 6	Age 7
LMB	2001	151	233	311	387	411	465	403
N		4	14	18	8	2	1	2
WHC	2001	104	140	166	180	173	182	185
N		14	9	24	4	3	5	1
BLG	2001		80	111	127	152	152	
N		0	2	16	10	4	6	

Table 3. Species composition and catch rate data collected from electrofishing samples at Lake Burton on 5/04/2001.

<u>Species</u>	<u>N</u>	<u>CPUE (hr.)</u>
Largemouth Bass	75	51
White Crappie	149	154
Black Crappie	8	8
Bluegill	124	380
Redear Sunfish	2	6
Channel Catfish	4	12
White Catfish	5	15
Flat Bullhead	9	28
Gizzard Shad	64	196
Golden Shiner	1	3
Common Carp	numerous	not counted
Misc. Suckers	numerous	not counted

